Volunteer Lake Assessment Program Individual Lake Reports

BRADLEY LAKE, ANDOVER, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	2,624	**Max. Depth (m):**	20.1	**Flushing Rate (yr^{1})**	1.4
Surface Area (Ac.):	169	**Mean Depth (m):**	6.1	**P Retention Coef:**	0.58
Shore Length (m):	4,500	**Volume (m^{3}):**	4,174,000	**Elevation (ft):**	828

TROPHIC CLASSIFICATION

Year	Trophic class

KNOWN EXOTIC SPECIES

The Waterbody Report Card tables are generated from the 2012 305(b) report on the status of N.H. waters, and are based on data collected from 2001-2011.

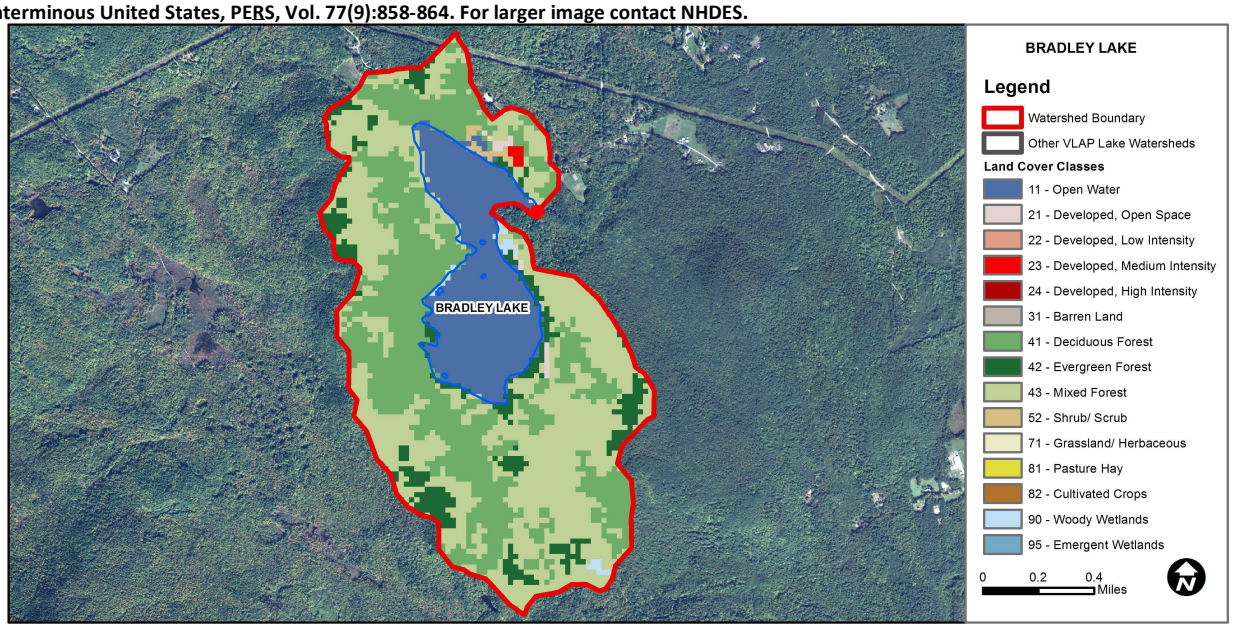
Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Encouraging	<5 samples and median is < threshold. More data needed.
	pH	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	D.O. (mg/L)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	D.O. (% sat)	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	Chlorophyll-a	Good	>/=5 samples and median is < threshold but > 1/2 threshold value.
Primary Contact Recreation	E. coli	No Data	No Data for this parameter.
	Chlorophyll-a	Encouraging	< 10 samples and no exceedance of criteria. More data needed.

BEACH PRIMARY CONTACT ASSESSMENT STATUS

BRADLEY LAKE - CAMP MARLYN BEACH	E. coli	No Data	No Data for this parameter.

WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.



Land Cover Category	% Cover	Land Cover Category	% Cover	Land Cover Category	% Cover
Open Water	17.1	Barren Land	0	Grassland/Herbaceous	0
Developed-Open Space	0.51	Deciduous Forest	32.58	Pasture Hay	0
Developed-Low Intensity	0	Evergreen Forest	8.36	Cultivated Crops	0
Developed-Medium Intensity	0.23	Mixed Forest	40.26	Woody Wetlands	0.62
Developed-High Intensity	0	Shrub-Scrub	0.46	Emergent Wetlands	0

VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS
BRADLEY LAKE, ANDOVER, NH
2012 DATA SUMMARY

OBSERVATIONS AND RECOMMENDATIONS (*Refer to Table 1 and Historical Deep Spot Data Graphic)*

- **CHLOROPHYLL-A:** Chlorophyll levels were very low in 2012 and well below the NH lake median, as they have been since monitoring began.
- **CONDUCTIVITY/CHLORIDE:** Deep spot and tributary conductivity were low and well below the NH Lake median.
- **TOTAL PHOSPHORUS:** Phosphorus levels were very low in the deep spot and tributaries and were consistent with prior years.
- **TRANSPARENCY:** Transparency was above average for most NH lakes and slightly higher than 2011.
- **TURBIDITY:** Deep spot and tributary turbidity were low, however Outlet turbidity was slightly elevated in July and August likely due to low water levels and stagnant conditions.
- **PH:** pH levels were lower than desirable and potentially critical to aquatic life.
- **RECOMMENDED ACTIONS:** Continue monthly monitoring program in the summer to better establish water quality trends. Keep up the great work!

Dissolved Oxygen & Temperature Profile

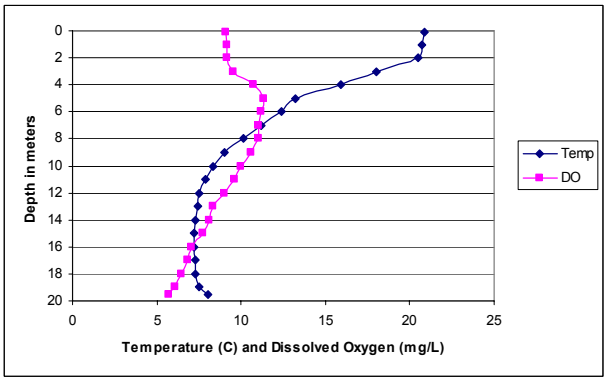


Table 1. 2012 Average Water Quality Data for BRADLEY LAKE

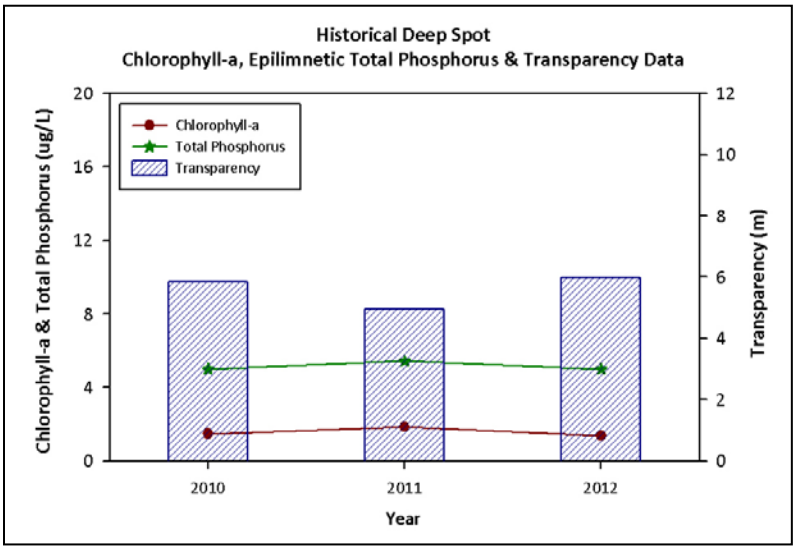
Station Name	Alk.	Chlor-a	Chloride	Cond.	Total P	Trans.		Turb.	pH
	mg/l	ug/l	mg/l	uS/cm	ug/l	m		ntu	
						NVS	VS		
Deep Epilimnion	1.77	1.37	3	21.5	4	5.98	6.95	0.45	5.73
Deep Metalimnion				15.1	5			0.52	6.03
Deep Hypolimnion				15.7	6			0.42	5.84
Inlet				25.6	8			0.76	6.3
Outlet				15.3	6			1.41	6.38

NH Median Values: Median values for specific parameters generated from historic lake monitoring data.
Alkalinity: 4.9 mg/L
Chlorophyll-a: 4.58 mg/m^3
Conductivity: 40.0 uS/cm
Chloride: 4 mg/L
Total Phosphorus: 12 ug/L
Transparency: 3.2 m
pH: 6.6

NH Water Quality Standards: Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.
Chloride: < 230 mg/L (chronic)
E. coli: > 88 cts/100 mL – public beach
E. coli: > 406 cts/100 mL – surface waters
Turbidity: > 10 NTU above natural level
pH: 6.5-8.0 (unless naturally occurring)

HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Explanation
Chlorophyll-a	N/A	Additional data necessary to determine trends.
Transparency	N/A	Additional data necessary to determine trends.
Phosphorus (epilimnion)	N/A	Additional data necessary to determine trends.



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